

# Notice of Allowability

Application No.

10/025,453

Examiner

Kirsten C Jolley

Applicant(s)

NAGASHIMA, SHINJI

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 3/29/04.
2. ☒ The allowed claim(s) is/are 17.
3. ☒ The drawings filed on 26 December 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☒ Certified copies of the priority documents have been received in Application No. 09/611,664.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Raymond Cardillo, Jr. on June 11, 2004.

The application has been amended as follows:

On page 1 of the specification, the first paragraph has been replaced with the following to indicate the updated status of the parent application:

--This application is a divisional application of, and claims priority to, Serial Number 09/611,664 filed June 6, 2000, abandoned, and claims priority to Japanese Application No. JP 11-193671 filed July 7, 1999, the entire contents of which are incorporated herein by reference.--

In claim 17, line 4, "T5" has been changed to --TS--.

In claim 17, line 8, "an" has been changed to --on--.

2. The following is an examiner's statement of reasons for allowance:

The prior art does not teach or fairly suggest a method comprising the steps of: regulating the temperature of an adhesion promoter solution to a temperature TL; regulating the temperature of a semiconductor substrate to a predetermined temperature

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TS; cooling the substrate when TL is higher than TS, or heating the substrate in an inert atmosphere when TL is lower than TS, thereby maintaining a desired substrate surface temperature; spin coating the adhesion promoter solution on the substrate followed by drying; and spin coating a layer insulating film on the substrate; whereby all of the steps of cooling or heating the substrate, spin coating and drying the adhesion promoter solution, and spin coating the layer insulating film are performed continuously in the same spin cup. This embodiment is described in the specification with respect to Figure 12.

The claim rejections over Hayashi et al. have been withdrawn because Hayashi et al. lacks a teaching or suggestion of controlling the temperature of the substrate, spin coating the substrate with a first adhesion promoter solution, and spin coating the substrate with a second insulating layer film forming solution continuously in a single cup, as argued by Applicant. Hayashi et al. also does not teach or provide motivation for controlling the temperature of its adhesion promoter solution, nor a step of cooling the substrate when the adhesion promoter solution temperature TL is higher than the predetermined substrate temperature TS or heating the substrate in an inert atmosphere when the adhesion promoter temperature TL is lower than the substrate temperature TS.

The claim rejections over Takamori et al. have been withdrawn because, as argued by Applicant, the first processing solution in Takamori et al. is a solvent, not an adhesion promoter solution. Therefore, Takamori et al. does not teach or fairly suggest the claimed steps of: regulating the temperature of an adhesion promoter solution to a temperature TL; cooling or heating the substrate, as claimed, depending on the temperature TL of an adhesion promoter solution; and performing the heating/cooling

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step and steps of spin coating and drying adhesion promoter solution and spin coating layer insulating film continuously in the same cup.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kirsten C Jolley  
Patent Examiner  
Art Unit 1762

kcj